

Response to the Public Consultation on Draft ETS State Aid Guidelines: Compensation for the Costs of Indirect Emissions under ETS Phase IV

The European Industrial Gases Association, EIGA, welcomes the opportunity to contribute to the improvement of the functioning of the State Aid Guidelines on financial compensation for the cost of indirect emissions under the new EU ETS Directive 2018/410 for Phase IV. In particular, we welcome the report of the Commission's consultants, which confirms many of the findings of the study carried out by Navigant and presented by EIGA to the Commission in March 2019:

- The Commission's consultants conclude that **the Industrial Gases (IG) sector has a RAG rating of medium-high at an EUA value of 35€**. They also conclude that the ICLI is a relevant metric for assessing the risk of carbon leakage due to indirect costs, **noting that the ICLI for the sector gases is almost five times higher than the threshold of 0.2**. These two factors clearly demonstrate that **the sector is exposed to a high level of risk** under a high carbon price scenario (35€/t CO₂).
- The Commission's consultants also note that **the IG sector has – at 2% - the highest ratio of indirect costs to GVA**. This point is critical to discussion of the implications of a distorted playing field for insourced and outsourced IG production.
- These conclusions support those reached in the Navigant report, namely that **the IG sector should be considered eligible for inclusion in the list of sectors eligible for financial compensation**.

In the above context, we also draw the Commission's attention to the fact that Member States – particularly in light of the ambitious objectives of the New Green Deal – are already preempting a higher carbon price and, in the example of the Netherlands, proposing a carbon tax to set a price floor as high as 150€/t by 2030.

Higher carbon prices will create distortions

EIGA's request for the inclusion of the IG sector on the list of sectors eligible for compensation is supported by customer sectors already proposed for inclusion, e.g. ferrous and non-ferrous metals. **These sectors are concerned that the rising cost of electricity for the production of the required amounts of IGs, whether insourced or outsourced, will distort the playing field on which they compete with producers abroad**. Unless the IG sector is included in the list of sectors eligible for compensation, the trend to decarbonisation of the IG sector through renewable energy sourcing will not provide relief from for these rising costs because of the marginal power price mechanism which carries CO₂ costs into renewable PPA costs.

As previously discussed, EIGA is also concerned that **higher carbon pricing will significantly increase the risk of distortion of the playing field between insourced and outsourced production of IGs**. EIGA is additionally concerned that the recent draft Communication from the Commission **extends the list of sectors with which distortion may be foreseen**:

Prevent distortions of competition for production of hydrogen:

Hydrogen is included in the list of refinery CWT process units, albeit with the expectation that such hydrogen be produced from fossil sources. The currently dominant production process for hydrogen – steam-methane reforming – is largely fuel-based; energy represents the greatest contribution to full production costs, around 75%. However, due to the rising demand for low-carbon solutions, the

production of low-carbon hydrogen (whether through electrolysis, steam-methane reforming with CCS or otherwise) is expected to grow substantially. For production of hydrogen through the electrolysis of water using renewable electricity, energy in the form of electricity will represent a similar (or even higher) proportion of production costs. **The production of low-carbon hydrogen will be economically important, environmentally sustainable and highly energy intensive. Compensation for the cost of indirect emissions should be available equally to insourced and outsourced production of hydrogen to prevent distortion of competition.**

Prevent distortions of competition for production of oxygen and nitrogen:

Process energy represents up to 60% of the full production costs of oxygen and nitrogen. Production is wholly electrified across all markets, competitors and business models. If based on renewable electricity, the production of those gases is indisputably an ‘environmentally sustainable economic activity’ (cf. Article 2 of the TEG mandate regarding sustainable finance). **As with hydrogen, the production of low-carbon oxygen and nitrogen will be economically important, environmentally sustainable and highly energy intensive.**

The production of oxygen and/or nitrogen is also included in the list of CWT process units upon which both free allocation of EUAs and compensation for indirect costs may be calculated for refineries. By analogy with hydrogen, **compensation for the cost of indirect emissions should be available equally to insourced and outsourced production of oxygen and nitrogen to prevent distortion of competition.**

Prevent distortions of competition by considering changes to the wording of the state aid guidelines

In order to mitigate the risk of market distortion with respect to in- and outsourced production and to correctly identify the electricity embedded in the production of IGs as intermediate products, the following measure identified in the above-mentioned study by Navigant should be taken into account when finalising the draft Communication:

- Paragraph 29 of the “Guidelines on certain State aid measures in the context of the system for greenhouse gas emission allowance trading post 2021” should be strengthened, specifically noting that the same guidelines should be applied to *subinstallations* as to installations and to *intermediate* products as to products.

EIGA recognizes that the benchmarking approach to be taken in the Commission’s state guidelines under EU ETS Phase III may differ from that of EU ETS Phase IV. However, EIGA takes this opportunity to provide **two further observations on the Guidelines for ETS Phase III¹ with the expectation that solutions to the issues identified might be provided in the Guidelines for the Phase IV:**

- In Annex I of Commission Communication 2012/C 158/04, the definition of baseline electricity consumption (BEC) should explicitly highlight that products and intermediate products *not* eligible for aid should be excluded.
- When applying the electricity-fuel interchangeability guidelines set out in out in Article 14 of Commission Decision 2011/278/EU, the production and storage of IGs should be excluded from consideration in Annex I of that Decision and in Annex III of Commission Communication 2012/C 158/04 (as subsequently provided in Commission Communication 2012/C 387/06).

¹ Commission Communication 2012/C 158/04

Eligibility of the IG sector for inclusion in the list eligible for compensation

In this section EIGA seeks to **summarise the conclusions of the Navigant study on the eligibility of IGs against the qualitative criteria** addressed by the Commission's consultants:

Market characteristics

The IG sector relies on the domestic market. Growth of the sector is directly correlated to growth of the iron, steel, petrochemical, and chemical industries in the EU. **Migration of these industries outside the EU would have a negative impact on the IG sector.**

As noted above, in both of the primary IG production processes – air separation and steam-methane reforming - process energy represents the greatest contribution to the full cost of production; around 60% for air separation and 75% for steam-methane reforming. Comparisons show that output prices follow production costs in the IG sector. These production costs - and therefore output prices – are strongly influenced by the sector's well documented high ICLI.

The main risk of *external* carbon leakage arises from the decrease in competitiveness of key EU industry sectors that consume IGs and are therefore exposed to rising embedded electricity costs. As shown by Navigant in its study, in metals sectors the increase in production costs due to indirect emission embedded in IGs could rise by up to 1.9% in 2030 (assuming 30€/ton CO₂).

The issue of *intrasectoral* competition is dealt with below.

Profit margins

It is indeed the case that typical contracts with customers for the most relevant products (oxygen, nitrogen and hydrogen) run for 15 years and include indexation against energy prices. Any increase or decrease of energy prices is therefore passed on to the customer *during the life of the contract*. **However, new IG demands arise and existing contracts expire. It is at these points that customers not only have the choice between several outsourcing providers but also are at liberty to reverse previous outsourcing decisions. With a statistical average remaining contract lifetime of 7.5 years, well over half of outsourced supply contracts will terminate within the period of ETS Phase IV.**

The IG sector is therefore exposed to *intersectoral* competition *and* *intrasectoral* competition that force the sector to improve its efficiency. However, the IG sector - and the related economic benefits and efficiency it provides - are highly vulnerable to emissions costs in cases where the level playing field is substantially distorted between the in- and outsourcing business models and/or between compensation mechanisms for direct and indirect emissions.

Abatement potential

As noted above, the dominant production processes currently employed by the IG sector are mature and prospects for their replacement in the short-to-medium term are small. IG producers can incrementally increase the capital and energy efficiency of new plants in the design phase, but the opportunities for on-the-run improvements are very limited. Significant improvements to existing plants are only possible at the end of the ~15-year capital cycle, i.e. amortisation time, when the plant may be refurbished or replaced, provided that the customer's demands remain *and* the supply contract is not lost to another outsourced supplier or, as stated above, to reversal of previous outsourcing decisions.

Oxygen, nitrogen and hydrogen are produced in the vicinity of their end-users. If installations lose their local customer base to customer closures or to *intrasectoral/intersectoral* competition they can become stranded assets. Hence, it is the long-term economic prospects and the purchasing decisions of customers that determine whether the industrial gas companies will have the opportunity to maintain or grow their businesses and to improve the efficiency of their production plants.

New hydrogen production processes, such as electrolysis using renewable electricity represent an important option for future emission abatement. Compensation for the cost of associated indirect emissions, would encourage rather than stifle this important development as it would also compensate for the rising costs resulting from the link between the price of renewable PPAs and marginal power prices. This issue is also relevant in the matter of fuel and electricity substitutability (see below).

Fuel and electricity substitutability

The production of oxygen and nitrogen is wholly electrified across all markets, competitors and business models; the production of hydrogen by electrolysis also.

As noted by the EII HLG, it is important that the electrification of industry not be discouraged by rising indirect costs of the EU ETS since it is an important route towards decarbonisation. Under the proposed regulatory framework, however, there is a risk that electrification *will* be discouraged where IG production processes, and applications of IG products, compete with fuel-driven processes:

- **Substitution of the production of hydrogen from steam-methane reforming by electrolysis of water:**
 - The currently dominant process for the production of hydrogen is expected to be joined - during the transition period 2020-2030 - by significant pilot-plant capacity based on highly electro-intensive, low-carbon electrolyser-based processes.
- **Substitution of the use of oxygen in end-user sectors by additional fuel use:**
 - Injection of additional, electro-intensive oxygen can reduce fuel use (and hence reduce direct emissions) in combustion processes in ETS sectors. Examples include oxy-fuel glass manufacture and electric arc furnaces for steel production.

The industrial gas sector represents an important tool for future fuel substitution and emission abatement. It is a tool whose use would be inhibited by the absence of compensation for the cost of indirect emissions, whether in- or out-sourced.

Conclusions

In order to ensure a level playing field for outsourced IG production, to promote European industrial competitiveness and to support the drive to climate-neutral processes and electrification, EIGA recommends that IGs be eligible for financial compensation. At the very least, eligibility should be formally reassessed at the point of review of the ETS Directive when it is highly likely that expectations for the EUA price will have risen to that of the Commission's consultant's high carbon-price scenario.

For the avoidance of distortion of the playing field for outsourced industrial gas production, the intent of the recommendations provided above by Navigant should also be included in the text of the guidelines.

In preparation for the possible inclusion of IGs in the list of sectors eligible for compensation, EIGA has already published efficiency benchmarks for oxygen and nitrogen, whether insourced or outsourced. These benchmarks should be explicitly included in the Commission's guidelines. An equivalent benchmark for indirect emissions associated with hydrogen will be developed and added.